National Climatic Data Center

DATA DOCUMENTATION

FOR

DATA SET 6143 (DSI-6143)

Prism High Resolution Analyses

December 6, 2002

National Climatic Data Center
151 Patton Ave.
Asheville, NC 28801-5001 USA

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Table of Contents

1. Abstract: This data set consists of monthly and annual precipitation and temperature files for a high resolution spatial grid. Each file represents 1 month of 1 year for the period 18950101-19971231 (103 years). Distribution of the point measurements to a spatial grid was accomplished using the PRISM model, developed by Chris Daly of the Spatial Climate Analysis Service/Oregon State University. Care should be taken in estimating data values at any single point on the map. Precipitation and temperatures estimated for each grid cell are an average over the entire area of that cell; thus, point values can be estimated at a spatial precision no better than half the resolution of a cell. For example, data were distributed at a resolution of approximately 4km. Therefore, point precipitation can be estimated at a spatial precision no better than 2km. However, the overall distribution of precipitation and temperature features is thought to be accurate. For additional information see the locations listed below:

URL:http://www.ocs.oregonstate.edu/prism/prism_new.html

FGDC compliant metadata describing the precipitation data files
URL:ftp://ftp.ncdc.noaa.gov/pub/data/prism100/ppt_metadata.txt

FGDC compliant metadata describing the temperature data files
URL:ftp://ftp.ncdc.noaa.gov/pub/data/prism100/temp_metadata.txt

Digital Elevation Model (DEM) used by Prism
URL:ftp://ftp.ncdc.noaa.gov/pub/data/prism100/us_25m.dem.gz

FGDC compliant metadata describing the elevation data file
URL:ftp://ftp.ncdc.noaa.gov/pub/data/prism100/dem_metadata.txt

Also available is a Zip archive containing three documentation files:

(a) infill.pdf – pdf file documenting how missing station data were infilled

(b) final_report.wpd – final project report to NOAA

(c) 103yr.ppt – PowerPoint presentation on the 103-yr data set presented at the American Meteorological Society Applied Climate Conference in May 2002.

ftp://ftp.ncdc.noaa.gov/pub/data/prism100/docs.zip

2. Element Names and Definitions:

GIS Header - number of rows, number of columns, longitude of lower left grid corner, latitude of lower left grid corner, cell size (decimal degrees)

Precipitation - precipitation accumulation for 1 month for a grid cell ("month" 14 is a 1-year accumulation derived by adding the monthly gridded values).
Integer 5, Units mm*100, Missing -9999

MaxTemperature- Maximum temperature for 1 month for a grid cell "month" 14 is a 1-year average derived by averaging the monthly gridded values).

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Integer 5, Units degrees Celsius*100, Missing -9999

MinTemperature- Minimum temperature for 1 month for a grid cell ("month" 14 is a 1-year average derived by averaging the monthly gridded values).
Integer 5, Units degrees Celsius*100, Missing -9999

3. Start Date: 18950101

4. Stop Date: 19971231

5. Coverage: Conterminous United States

a. Southermost Latitude: 24.06250000N
b. Northernmost Latitude: 49.93750000N
c. Westernmost Longitude: 125.02083333W
d. Easternmost Longitude: 66.47916757W

6. How to Order Data:

Ask NCDC's Climate Services about the cost of obtaining this data set.
Phone: 828-271-4800
FAX: 828-271-4876
E-mail: **NCDC.Orders@noaa.gov**

Also available at: **URL:ftp://ftp.ncdc.noaa.gov/pub/data/prism100/**

7. Archiving Data Center:

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, NC 28801-5001
Phone: (828) 271-4800.

8. Technical Contact:

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, NC 28801-5001
Phone: (828) 271-4800.

Dr. Christopher Daly
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FAX 541-737-5710
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9. Known Uncorrected Problems: None.

10. Quality Statement: National Weather Service Cooperative (COOP) Data Set 3200 (DSI-3200) daily data were passed through QA/QC procedures developed at
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the National Climatic Data Center prior to creation of the Data Set 3220 monthly precipitation data. For further information, see URL:http://www.ncdc.noaa.gov In addition, spatial QC checks were implemented. See final_report.wpd in the archive URL:ftp://ftp.ncdc.noaa.gov/pub/data/prism100/docs.zip for more information.

Completeness Report - Point estimates of monthly precipitation originated from the following sources:

1) National Weather Service Cooperative (COOP) stations

2) Natural Resources Conservation Service (NRCS) SNOTEL

3) local networks

4) statistically in-filled missing monthly data to produce a serially complete station data set, generated by the National Center for Atmospheric Research (NCAR).

Positional_Accuracy - Accuracy of this data set is based on the original specification of the Defense Mapping Agency (DMA) 1 degree digital elevation models (DEM). The stated accuracy of the original DEMs is 130 m circular error with 90% probability.

11. Essential Companion Datasets: None.

12. References:

Daly, C., R.P. Neilson, and D.L. Phillips, 1994: A Statistical-Topographic Model for Mapping Climatological Precipitation over Mountainous Terrain. J.Appl. Meteor., 33,140-158.

Daly, C., W. P. Gibson, G.H. Taylor, G. L. Johnson, P. Pasteris. 2002. A knowledge-based approach to the statistical mapping of climate. Climate Research, in press.